

wherein **B** is H, a C<sub>6</sub> or C<sub>10</sub> aryl, C<sub>7-16</sub> aralkyl; Het or (lower alkyl)-Het, all of which optionally substituted with C<sub>1-6</sub> alkyl; C<sub>1-6</sub> alkoxy; C<sub>1-6</sub> alkanoyl; hydroxy; hydroxyalkyl; halo; haloalkyl; nitro; cyano; cyanoalkyl; amino optionally substituted with C<sub>1-6</sub> alkyl; amido; or (lower alkyl)amide; or **B** is an acyl derivative of formula **R**<sub>4</sub>-C(O)-; a carboxyl derivative of formula **R**<sub>4</sub>-O-C(O)-; an amide derivative of formula **R**<sub>4</sub>-N(**R**<sub>5</sub>)-C(O)-; a thioamide derivative of formula **R**<sub>4</sub>-N(**R**<sub>5</sub>)-C(S)-; or a sulfonyl derivative of formula **R**<sub>4</sub>-SO<sub>2</sub> wherein

**R<sub>4</sub>** is (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amide;

(ii) C<sub>3-7</sub> cycloalkyl, C<sub>3-7</sub> cycloalkoxy, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, amido, or (lower alkyl) amide;

(iii) amino optionally mono- or di-substituted with  $C_{1-6}$  alkyl; amido; or (lower alkyl)amide;

(iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl)amide, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl; or

(v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido,

(lower alkyl) amide, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;

Y is H or C<sub>1-6</sub> alkyl;

**R<sup>3</sup>** is C<sub>1-8</sub> alkyl, C<sub>3-7</sub> cycloalkyl, or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with hydroxy, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> thioalkyl, amido, (lower alkyl)amido, C<sub>6</sub> or C<sub>10</sub> aryl, or C<sub>7-16</sub> aralkyl;

B

**R<sup>2</sup>** is  $\text{CH}_2\text{-R}_{20}$ ,  $\text{NH-R}_{20}$ ,  $\text{O-R}_{20}$  or  $\text{S-R}_{20}$ , wherein **R<sub>20</sub>** is pyrimidinyl, quinazolinyl, (lower alkyl)-pyrimidinyl or (lower alkyl)-quinazolinyl, each optionally mono-, di- or tri-substituted with **R<sub>21</sub>**, wherein each **R<sub>21</sub>** is independently  $\text{C}_{1-6}$  alkyl;  $\text{C}_{1-6}$  alkoxy; lower thioalkyl; sulfonyl;  $\text{NO}_2$ ;  $\text{OH}$ ;  $\text{SH}$ ; halo; haloalkyl; amino optionally mono- or di-substituted with  $\text{C}_{1-6}$  alkyl,  $\text{C}_6$  or  $\text{C}_{10}$  aryl,  $\text{C}_{7-14}$  aralkyl, Het or (lower alkyl)-Het; amido optionally mono-substituted with  $\text{C}_{1-6}$  alkyl,  $\text{C}_6$  or  $\text{C}_{10}$  aryl,  $\text{C}_{7-14}$  aralkyl, Het or (lower alkyl)-Het; carboxyl; carboxy(lower alkyl);  $\text{C}_6$  or  $\text{C}_{10}$  aryl,  $\text{C}_{7-14}$  aralkyl or Het, said aryl, aralkyl or Het being optionally substituted with **R<sub>22</sub>**;

wherein **R<sub>22</sub>** is  $\text{C}_{1-6}$  alkyl;  $\text{C}_{3-7}$  cycloalkyl;  $\text{C}_{1-6}$  alkoxy; amino optionally mono- or di-substituted with  $\text{C}_{1-6}$  alkyl; sulfonyl; (lower alkyl)sulfonyl;  $\text{NO}_2$ ;  $\text{OH}$ ;  $\text{SH}$ ; halo; haloalkyl; carboxyl; amide; (lower alkyl)amide; or Het optionally substituted with  $\text{C}_{1-6}$  alkyl;

**R<sup>1</sup>** is H;  $\text{C}_{1-6}$  alkyl,  $\text{C}_{3-7}$  cycloalkyl,  $\text{C}_{2-6}$  alkenyl, or  $\text{C}_{2-6}$  alkynyl, all optionally substituted with halogen;

or a pharmaceutically acceptable salt or ester thereof;

wherein "Het" is defined as a five-membered saturated or unsaturated, including aromatic or non-aromatic, heterocycle containing from one to four heteroatoms selected from nitrogen, oxygen and sulfur, wherein said heterocycle is optionally fused to a benzene ring.

5. (amended) A compound of formula I according to claim 1, wherein **B** is a carboxyl derivative of formula  $\text{R}_4\text{-O-C(O)-}$ , wherein **R<sub>4</sub>** is
  - (i)  $\text{C}_{1-10}$  alkyl optionally substituted with carboxyl,  $\text{C}_{1-6}$  alkanoyl, hydroxy,  $\text{C}_{1-6}$  alkoxy, amino optionally mono- or di-substituted with  $\text{C}_{1-6}$  alkyl, amido or (lower alkyl)amide;
  - (ii)  $\text{C}_{3-7}$  cycloalkyl,  $\text{C}_{4-10}$  alkylcycloalkyl, all optionally substituted with carboxyl, ( $\text{C}_{1-6}$  alkoxy)carbonyl, amino optionally mono- or di-substituted with  $\text{C}_{1-6}$  alkyl, amido or (lower alkyl)amide;
  - (iv)  $\text{C}_6$  or  $\text{C}_{10}$  aryl or  $\text{C}_{7-16}$  aralkyl optionally substituted with  $\text{C}_{1-6}$  alkyl, hydroxy, amido, (lower alkyl)amido, or amino optionally mono- or di-substituted with  $\text{C}_{1-6}$  alkyl; or
  - (v) Het or (lower alkyl)-Het, both optionally substituted with  $\text{C}_{1-6}$  alkyl, hydroxy, amino

optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, amido or (lower alkyl)amido.

6. (amended) A compound of formula I according to claim 1, wherein **B** is an amide derivative of formula  $\mathbf{R}_4\text{-N}(\mathbf{R}_5)\text{-C(O)}$ - wherein  $\mathbf{R}_4$  is
  - (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amido, (lower alkyl)amido, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;
  - (ii) C<sub>3-7</sub> cycloalkyl or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amido, (lower alkyl)amido, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;
  - (iii) amino optionally mono- or di-substituted with C<sub>1-3</sub> alkyl;
  - (iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl)amide, or amino optionally substituted with C<sub>1-6</sub> alkyl; or
  - (v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amino optionally substituted with C<sub>1-6</sub> alkyl, amido or (lower alkyl)amide; and

$\mathbf{R}_5$  is H or methyl.
7. (amended) A compound of formula I according to claim 1, wherein **B** is a thioamide derivative of formula  $\mathbf{R}_4\text{-NH-C(S)}$ -; wherein  $\mathbf{R}_4$  is
  - (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl or C<sub>1-6</sub> alkoxy;
  - (ii) C<sub>3-7</sub> cycloalkyl or C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino or amido.
11. (amended) A compound of formula I according to claim 5, wherein **B** is a carboxyl derivative of formula  $\mathbf{R}_4\text{-O-C(O)}$ -, wherein  $\mathbf{R}_4$  is
  - (i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy or amido, (lower alkyl)amide, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;
  - (ii) C<sub>3-7</sub> cycloalkyl, C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amido, (lower alkyl)amide, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, or

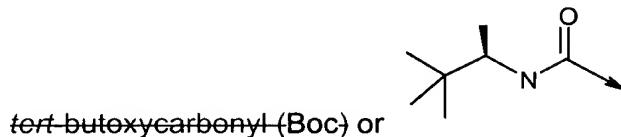
- (iv)  $C_6$  or  $C_{10}$  aryl or  $C_{7-16}$  aralkyl, all optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amino optionally substituted with  $C_{1-6}$  alkyl; or
- (v) Het or (lower alkyl)-Het, both optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amido, or amino optionally mono-substituted with  $C_{1-6}$  alkyl.

12. (amended) A compound of formula I according to claim 6, wherein **B** is an amide derivative of formula  $\mathbf{R}_4\text{-N}(\mathbf{R}_5)\text{-C(O)}$ - wherein  $\mathbf{R}_4$  is
- (i)  $C_{1-10}$  alkyl optionally substituted with carboxyl,  $C_{1-6}$  alkanoyl, hydroxy,  $C_{1-6}$  alkoxy, amido, (lower alkyl)amide, amino optionally mono- or di-substituted with  $C_{1-6}$  alkyl;
  - (ii)  $C_{3-7}$  cycloalkyl or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with carboxyl, ( $C_{1-6}$  alkoxy)carbonyl, amido, (lower alkyl)amide, amino optionally mono- or di-substituted with  $C_{1-6}$  alkyl;
  - (iii) amino optionally mono- or di-substituted with  $C_{1-3}$  alkyl, or
  - (iv)  $C_6$  or  $C_{10}$  aryl or  $C_{7-16}$  aralkyl, all optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amino or amido optionally substituted with  $C_{1-6}$  alkyl; or
  - (v) Het optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amino or amido,
- and  $\mathbf{R}_5$  is H.
13. (amended) A compound of formula I according to claim 7, wherein **B** is a thioamide derivative of formula  $\mathbf{R}_4\text{-NH-C(S)}$ -; wherein  $\mathbf{R}_4$  is (i)  $C_{1-10}$  alkyl; or (ii)  $C_{3-7}$  cycloalkyl.
14. (amended) A compound of formula I according to claim 12, wherein **B** is an amide derivative of formula  $\mathbf{R}_4\text{-NH-C(O)}$ - wherein  $\mathbf{R}_4$  is
- (i)  $C_{1-10}$  alkyl optionally substituted with carboxyl,  $C_{1-6}$  alkanoyl, hydroxy,  $C_{1-6}$  alkoxy amido, (lower alkyl)amide, amino optionally mono- or di-substituted with  $C_{1-6}$  alkyl;
  - (ii)  $C_{3-7}$  cycloalkyl or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with carboxyl, ( $C_{1-6}$  alkoxy)carbonyl, amido, (lower alkyl)amide, amino optionally mono- or di-substituted with  $C_{1-6}$  alkyl;
  - (iv)  $C_6$  or  $C_{10}$  aryl or  $C_{7-16}$  aralkyl optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amino or

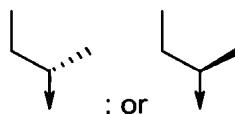


amido.

15. (amended) A compound of formula I according to claim 1, wherein **B** is

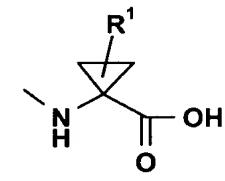


19. (amended) A compound of formula I according to claim 18, wherein **R**<sup>3</sup> is the side chain of *tert*-butylglycine (Tbg), Ile, Val, Chg or:



36. (twice amended) A compound of formula I according to claim 1, wherein **P1** is a cyclobutyl or cyclopropyl ring, both optionally substituted with **R**<sup>4</sup>, wherein **R**<sup>1</sup> is H, C<sub>1-3</sub> alkyl, C<sub>3-5</sub> cycloalkyl, or C<sub>2-4</sub> alkenyl, all optionally substituted with halo.

37. (amended) A compound of formula I according to claim 36, wherein **P1** is cyclopropyl



and **R**<sup>1</sup> is ethyl, vinyl, cyclopropyl, 1 or 2-bromoethyl or 1 or 2-bromovinyl.

45. (twice amended) A compound of formula I according to claim 1, wherein **B** is a C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkanoyl, hydroxy, hydroxyalkyl, halo, haloalkyl, nitro, cyano, cyanoalkyl, amido, (lower alkyl)amido, or amino optionally substituted with C<sub>1-6</sub> alkyl; or

Het or (lower alkyl)-Het, all optionally substituted with C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkanoyl, hydroxy, hydroxyalkyl, halo, haloalkyl, nitro, cyano, cyanoalkyl, amido, (lower alkyl)amido, or amino optionally substituted with C<sub>1-6</sub> alkyl, or

**B** is R<sub>4</sub>-SO<sub>2</sub> wherein R<sub>4</sub> is preferably amido; (lower alkyl)amide; C<sub>6</sub> or C<sub>10</sub> aryl, C<sub>7-14</sub> aralkyl or Het, all optionally substituted with C<sub>1-6</sub> alkyl, or

**B** is an acyl derivative of formula R<sub>4</sub>-C(O)- wherein R<sub>4</sub> is

(i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, hydroxy or C<sub>1-6</sub> alkoxy, amido, (lower alkyl)amide, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;

(ii) C<sub>3-7</sub> cycloalkyl or C<sub>4-10</sub> alkylcycloalkyl, both optionally substituted with hydroxy, carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amido, (lower alkyl)amide, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;

(iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl, all optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl)amide, or amino optionally substituted with C<sub>1-6</sub> alkyl;

(v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amino optionally substituted with C<sub>1-6</sub> alkyl, amido, (lower alkyl)amide, or amino optionally substituted with C<sub>1-6</sub> alkyl, or

**B** is a carboxyl derivative of formula R<sub>4</sub>-O-C(O)-, wherein R<sub>4</sub> is

(i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, amido or (lower alkyl)amide;

(ii) C<sub>3-7</sub> cycloalkyl, C<sub>4-10</sub> alkylcycloalkyl, all optionally substituted with carboxyl, (C<sub>1-6</sub> alkoxy)carbonyl, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, amido or (lower alkyl)amide;

(iv) C<sub>6</sub> or C<sub>10</sub> aryl or C<sub>7-16</sub> aralkyl optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amido, (lower alkyl)amide, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl; or

(v) Het or (lower alkyl)-Het, both optionally substituted with C<sub>1-6</sub> alkyl, hydroxy, amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl, amido or (lower alkyl)amide, or

**B** is an amide derivative of formula R<sub>4</sub>-N(R<sub>5</sub>)-C(O)- wherein R<sub>4</sub> is

(i) C<sub>1-10</sub> alkyl optionally substituted with carboxyl, C<sub>1-6</sub> alkanoyl, hydroxy, C<sub>1-6</sub> alkoxy, amido, (lower alkyl)amide, or amino optionally mono- or di-substituted with C<sub>1-6</sub> alkyl;

(ii)  $C_{3-7}$  cycloalkyl or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with carboxyl, ( $C_{1-6}$  alkoxy)carbonyl, amido, (lower alkyl)amido, or amino optionally mono- or di-substituted with  $C_{1-6}$  alkyl;

(iii) amino optionally mono- or di-substituted with  $C_{1-3}$  alkyl;

(iv)  $C_6$  or  $C_{10}$  aryl or  $C_{7-16}$  aralkyl, all optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amido, (lower alkyl)amide, or amino optionally substituted with  $C_{1-6}$  alkyl; or

(v) Het or (lower alkyl)-Het, both optionally substituted with  $C_{1-6}$  alkyl, hydroxy, amino optionally substituted with  $C_{1-6}$  alkyl, amido or (lower alkyl)amide; and

$R_5$  is H or methyl, or

$B$  is thioamide derivative of formula  $R_4$ -NH-C(S)-; wherein  $R_4$  is

(i)  $C_{1-10}$  alkyl optionally substituted with carboxyl,  $C_{1-6}$  alkanoyl or  $C_{1-6}$  alkoxy;

(ii)  $C_{3-7}$  cycloalkyl or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with carboxyl, ( $C_{1-6}$  alkoxy)carbonyl, amino or amido;

$Y$  is H or methyl;

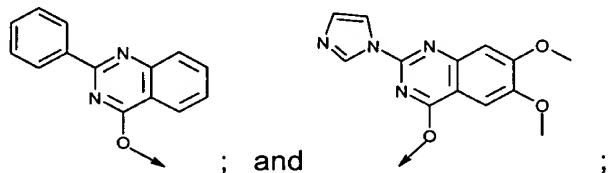
$R^3$  is  $C_{1-8}$  alkyl,  $C_{3-7}$  cycloalkyl, or  $C_{4-10}$  alkylcycloalkyl, all optionally substituted with hydroxy,  $C_{1-6}$  alkoxy,  $C_{1-6}$  thioalkyl, acetamido,  $C_6$  or  $C_{10}$  aryl, or  $C_{7-16}$  aralkyl;

$R^2$  is S- $R_{20}$  or O- $R_{20}$  wherein  $R_{20}$  is pyrimidinyl, quinazolinyl, - $CH_2$ -pyrimidinyl or - $CH_2$ -quinazolinyl, all optionally mono-, di- or tri-substituted with  $R_{21}$ , wherein

$R_{21}$  is  $C_{1-6}$  alkyl;  $C_{1-6}$  alkoxy; lower thioalkyl; amino or amido optionally mono- or di-substituted with  $C_{1-6}$  alkyl,  $C_6$  or  $C_{10}$  aryl,  $C_{7-16}$  aralkyl, Het or (lower alkyl)-Het;  $NO_2$ ; OH; halo; trifluoromethyl; carboxyl;  $C_6$  or  $C_{10}$  aryl,  $C_{7-16}$  aralkyl, or Het, said aryl, aralkyl or Het being optionally substituted with  $R_{22}$ , wherein

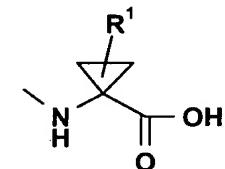
$R_{22}$  is  $C_{1-6}$  alkyl;  $C_{3-7}$  cycloalkyl;  $C_{1-6}$  alkoxy; amino; mono- or di-(lower alkyl)amino; (lower alkyl)amide; sulfonylalkyl;  $NO_2$ ; OH; halo; trifluoromethyl; carboxyl or Het; or

$R^2$  is selected from the group consisting of:

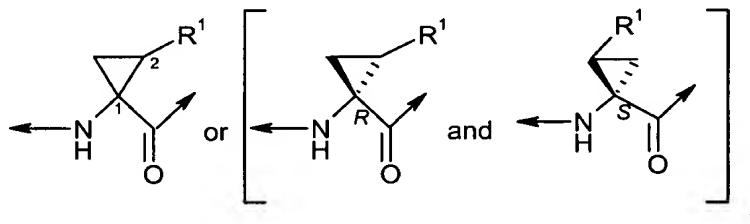


and

the P1 segment is:



~~a cyclopropyl ring, both optionally substituted with R<sup>1</sup>, wherein R<sup>1</sup> is H, C<sub>1-3</sub> alkyl, C<sub>3-5</sub> cycloalkyl, or C<sub>2-4</sub> alkenyl optionally substituted with halo, and said R<sup>1</sup> at carbon 2 is orientated syn to the carbonyl at position 1, represented by the radical:~~



or a pharmaceutically acceptable salt or ester thereof.

#### REMARKS

The specification and claims have been amended for clarification and to specifically address the issues raised by the Examiner. Support for these amendments is present in the application as filed. Support for certain specific amendments is also discussed in detail below. There being no issue of new matter, entry of the foregoing amendments is respectfully requested.